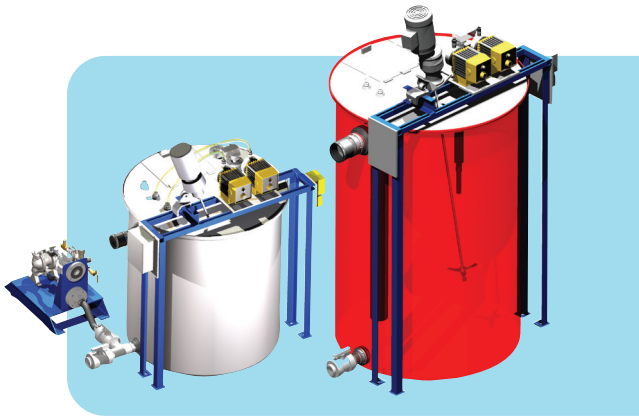
Economy Neutralization System (ENSP)



The Economy Neutralization System (ENSP) is a single stage pH neutralization system. The ENSP system is designed primarily for final pH adjustment. The system has the capability of regulating effluent pH levels from a variety of industrial waste streams. The typical influent wastewater pH range for treatment is from four to eleven. Effluent from the ENSP is generally between six and nine.

This basic neutralization system configuration includes HDPE-constructed tank and is equipped with a mixer, two chemical metering pumps, one pH probe, an out of specification alarm and a pH controller. Modules are configurable to meet the standard continuous flowthrough mode, or optional manual and semi-automatic batch modes. Additional options include: chart recorder, gasket material and an effluent diversion valve (only available on the flow-through systems).

The frame supports the mixer, probe and chemical pumps. A rolling steel warehouse ladder is supplied for models where operator access to the system is needed.

PROCESS DESCRIPTION

Flow-Through

The Economy pH Neutralization System (ENSP) is designed to adjust the effluent pH to the required conditions for discharge. The flow-through neutralization system is sized to receive and treat non-metal bearing waste streams. The neutralization tank is sized for approximately ten to twelve minutes retention time at a continuous flow rate.

A mechanical mixer is mounted on a support bridge to ensure a proper homogeneous mixture.

Acid and caustic chemical metering pumps are provided to inject the neutralization reagents. The chemical metering pumps are automatically operated by the controller. Acid and/or caustic is added as needed to maintain the pH level within the designated parameters.

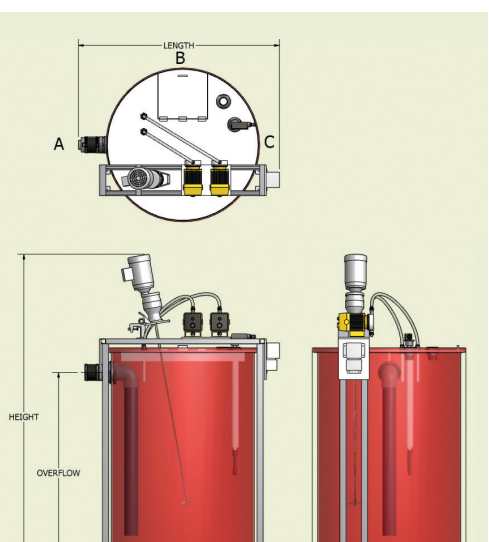
The controller is equipped to monitor/display pH, adjust chemical additions and alarm during out-of-specification conditions.

Optional Manual Batch Mode

The optional manual batch mode neutralization tank is filled manually; no level control is supplied to stop the filling of the tank. Once the pH adjustment is completed, the operator manually opens the pump suction valve and turns the air valve to start the air operated diaphragm pump.

Optional Semi-Automatic Batch Mode

The optional semi-automatic batch mode neutralization tank is filled manually; no level control is supplied to stop the filling of the tank. Once the pH adjustment is completed, the operator manually opens the pump suction valve. The operator pushes a button on the panel to start the pump. Once the water level reaches low level, the pump will stop The low level float is set to leave some water in the tank.



ENSP PRODUCT LINE NUMBERING SYSTEM

ENSP –

Effluent Control Valve (Flow-Through)
0 = No Diversion Valve
1 = 3" 3-way Electric Valve (250 model only)
2 = 4" 3-way Electric Valve (500 & 1000 models only)

Chart Recorder
0 = No Chart Recorder
1 = One Pen Circular Chart Recorder

Effluent Orientation
A =
B = (see diagram at left for details)
C =

Flow Type
0 = Flow-Through (gravity)
1 = Batch, Manual Pump Down (no level control)
2 = Batch, Semi-Automatic Pump Down (level control)

Size (Flow-Through)
0250 = 250-gallon, 20 gpm
0500 = 500-gallon, 40 gpm
1000 = 1,000-gallon, 80 gpm

SPECIFICATIONS

Model Number	ENSP 250	ENSP 500	ENSP 1000
Tank	250-gallon; HDPE 0.95 m^3	500-gallon; HDPE 1.89 m^3	1,000-gallon; HDPE 3.85 m^3
Recommended Flow Rate	20 gpm 4.5 m^3/hr	40 gpm 9.08 m^3/hr	80 gpm 18.16 m^3/hr
Mixers	0.25 HP, 115/208-230 V, 1-Phase; 60-Hz, 3-6 Amps	0.33 HP, 115/208-230 V, 1-Phase; 60-Hz, 4-7 Amps	0.75 HP, 115/208-230 V, 1-Phase; 60-Hz, 7-14 Amps
Overflow Connection	3" (76.2 mm) Flex Connection	4" (101.6 mm) Flex Connection	4" (101.6 mm) Flex Connection
Influent Connection	2" (50.8 mm) Bulkhead Fitting	2" (50.8 mm) Bulkhead Fitting	2" (50.8 mm) Bulkhead Fitting
pH Controller/Probe	LMI	LMI	LMI
Dimensions (Flow-Through)	58" Dia x 80" H 1,473 x 2,032 mm	62" Dia x 100" H 1,574 x 2,540 mm	90" Dia x 120" H 2,286 x 3,048 mm
Overflow Height	42.0" 1,067 mm	65.25" 1,581 mm	84.0" 2,134 mm
Shipping Weight	275 lbs 125 kg	400 lbs 181 kg	860 lbs 390 kg
Operating Weight	2,500 lbs 1,134 kg	5,000 lbs 2,268 kg	9,200 lbs 4,173 kg
Rolling Stairs (Optional - Recommended for Servicing Equipment)	Not Applicable	26" L x 20" W x 60" H 660 x 508 x 1,524 mm	31" L x 30" W x 71" H 787 x 762 x 1,803 mm

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